Panasonic
ideas for life

Super Dynamic Weather Resistant
HD Network Camera

WV-SW316L
WV-SW316

HD / 1,280 x 960 H.264 Network Camera featuring *Super Dynamic*

Key Features

- 720p HD images up to 30 fps
- Newly developed 1.3 Megapixel high sensitivity MOS Sensor
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording by "UniPhier®", Panasonic's proprietary System LSI platform.
- Full frame (Up to 30 fps) transmission at 1,280 x 960 image size
- ***Super Dynamic*** and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared to conventional cameras.
- ***Face Super Dynamic*** Range technology ensures clear face image.
- H.264 and MPEG-4 are selectable for system migration.
- High sensitivity with Day/Night (IR) function:
  WV-SW316L : 0.3 lx (Color), 0 lx (B/W) at F1.3 (Wide) when the IR LED is lit
  WV-SW316 : 0.3 lx (Color), 0.05 lx (B/W) at F1.3 (Wide)
- Motorized varifocal lens equipped:
  The zoom ratio can be changed and adjusted to an optional photographic area through the operation buttons on this unit and the setup menu.
- IR LED equipped: The equipped infrared LED makes it possible to take pictures at zero lx.(WV-SW316L)
- VIQS (Variable Image Quality on Specified area) technology allows the designated area to retain higher image quality while the excluded area will have a decreased image quality, which enables to use lower image file size and bit rate.
- ABF (Auto Back Focus) ensures easy installation.
- Digital Noise Reduction: 3D-DNR ensures noise reduction in various conditions.
- Electronic sensitivity enhancement: Auto (Up to 16x) / OFF
- Up to 6.4x Extra Optical Zoom under VGA resolution.
  3.1-10 mm, 3.2x vari-focal auto iris lens (3.1-20 mm (equivalent), 6.4x with Extra Optical Zoom (at VGA))
- VMD (Video Motion Detector) with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- Face detection function detects the position of human face and the information is sent by XML or video stream.
- Meta data for VMD is supplied to work with the WJ-NV200 /WJ-ND400 playback VMD function.
- Privacy Zone can mask up to 2 private areas, such as house windows and entrances/exits.
- Alarm sources including 1 terminal input, VMD and Panasonic alarm command can trigger actions such as SDHC/SD memory recording, FTP image transfer, E-mail notification, Indication on browser, Alarm terminal output, and Panasonic protocol output.
- Full duplex bi-directional audio allows interactive communication between camera site and monitoring site.
- JPEG image compression ratio can be changed by alarm so that higher quality image can be provided.
- Prioritized stream control: One of the video streams can be prioritized when multiple recorders or client PCs are accessing the camera so that the recorder or the client PC can maintain the frame rate.
- SDHC/SD Memory card slot for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (JPEG)
- H.264/MPEG-4 max. bit rate/client and Total bit rate control allows flexible network traffic management. Frame rate priority mode controls bit rate and compression ratio to provide the specified frame rate.
- Multi-language: English / Italian / French / German / Spanish / Russian / Chinese / Japanese
- IPv4/IPv6 protocol supported
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- ONVIF compliant model
- Analog Monitor output for easier installation
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard.
- Dehumidification device for use in various weather conditions

Standard Accessories

- Installation Guide .....1 pc.
- CD-ROM*1 .....1 pc.
- Code Label*2.....1 pc.

The followings are for installation.

- 4P alarm cable.....1 pc.
- 2P power cable.....1 pc.
- Camera mount bracket ..... 1 pc.
- Mount bracket cover .....2 pc.
- Waterproof tape .....1 pc.
- Camera fixing screw (M4 x 8) .....4 pcs. (of them, 1 for spare)
- Mount bracket cover screw (M3 x 6) .....3 pcs. (of them, 1 for spare)
- Adapter box (PAL model only).....1 pc.
- Adapter box mounting screw (M4 x 35) (PAL model only).....1 pc.
- Mounting screws for adapter box / camera mount bracket (M5 x 20)(PAL model only) .....5 pcs. (of them, 1 for spare)

*1 The CD-ROM contains the operating instructions (HTML, PDFs) and different kinds of tool software programs.
*2 This label may be required for network management.
The network administrator shall retain the code label.

Optional Accessory

Adapter Box
WV-Q120
(NTSC model only)

use-IP
www.use-ip.co.uk
01304 827609

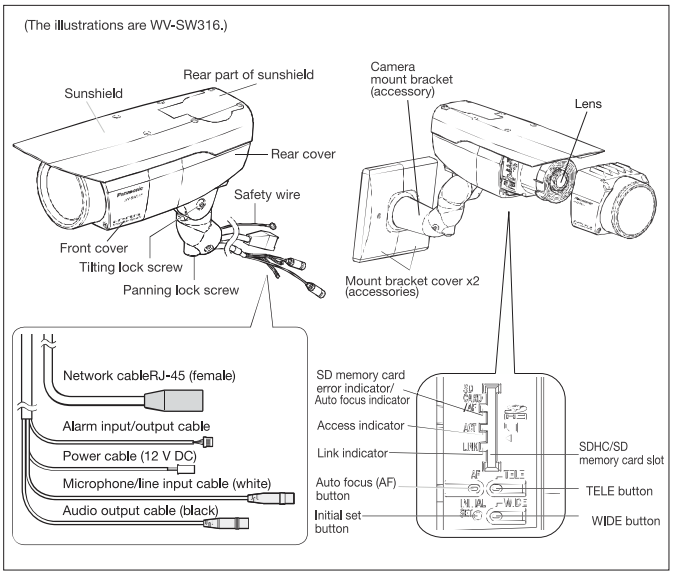
Specifications

TV System			NTSC	PAL
Camera	Image Sensor		1/3 type MOS Sensor	
	Effective Pixels		Approx. 1.3 megapixels	
	Scanning Mode		Progressive scan	
	Scanning Area		4.80 mm (H) x 3.60 mm (V) (3/16"(H) x 5/32"(V))	
	Minimum Illumination		WV-SW316L: Color: 0.3 lx, B/W: 0 lx at F1.3 (Shutter: 1/30 s, AGC: High, when the IR LED is lit), Color: 0.019 lx, at F1.3 (Shutter: 16/30 s, AGC: High) WV-SW316: Color: 0.3 lx, B/W: 0.05 lx at F1.3 (Shutter: 1/30 s, AGC: High), Color: 0.019 lx, B/W: 0.003 lx at F1.3 (Shutter: 16/30 s, AGC: High)	
	IR LED Light		WV-SW316L: Off/Auto(High/Mid/Low)	
	IR LED irradiation distance		WV-SW316L: 15 m {49.21 feet}	
	White Balance		AWC (2,000 ~ 10,000 K), ATW1 (2,700 ~ 6,000 K), ATW2 (2,000 ~ 6,000 K)	
	Light Control Mode		Outdoor: Automatic integration of ALC and ELC Indoor [50 Hz]: Automatic integration of ALC and ELC (up to 1/100 s) Indoor [60 Hz]: Automatic integration of ALC and ELC (up to 1/120 s)	
	Shutter Speed		Fix shutter: 1/30, 3/100, 3/120, 2/100, 2/120, 1/100, 1/120, 1/250,1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000 (only at Super-Dynamic Off)	
	Super Dynamic		ON / OFF	
	Face Super Dynamic		ON / OFF (Only at Super Dynamic: ON)	
	Adaptive Black Stretch		ON / OFF (Only at Super Dynamic: OFF)	
	AGC		ON (LOW, MID, HIGH) / OFF	
	Electronic Sensitivity UP		OFF / AUTO (Max. 2x (2/30 s), 4x (4/30 s), 6x (6/30 s), 10x (10/30 s), 16x (16/30 s))	
	Day & Night (IR)		Mode: AUTO1 / AUTO2 / ON / OFF, Level:High / Low, with external control	
	Dynamic Range		52 dB typ. (Super Dynamic: On, Light control mode: indoor scene)	
	Digital Noise Reduction		High / Low	
	Video Motion Detection		4 areas, Sensitivity: 15 steps, Detection size: 10 steps	
	Privacy Zone		Up to 2 zones, Gray	
	VIQS		ON / OFF	
	Camera Title (OSD)		Up to 20 characters (alphanumeric characters, marks)	
	Focus Adjustment		ABF / MANUAL	
Lens	Focal Length		3.1 mm ~ 10 mm, 3.2x (3.1-20 mm (equivalent), 6.4x with Extra Optical Zoom (at VGA))	
	Angular Field of View		H: 27.7° (TELE) ~ 100.3° (WIDE), V: 20.8° (TELE) ~ 73.6° (WIDE)	
	Maximum Aperture Ratio		1 : 1.3 (WIDE) ~ 1 : 3.0 (TELE)	
	Focusing Range		0.3 m ~ ∞	
Adjusting Angle			Horizontal: ±100° (Camera mount bracket) Vertical: +30°, -90° (Camera mount bracket)	
Browser GUI	Camera Control		Brightness, AUX ON / OFF	
	Display Mode		Spot, Quad: Image from 16 cameras can be displayed in 4 different Quad screens or 16 split screen (JPEG only). 20 characters camera title available.	
	Digital Zoom		1x, 2x, 4x controlled by browser GUI	
	Camera Title		Up to 20 alphanumeric characters	
	Clock Display		Time: 12H/24H, Date: 5 formats on the browser, Summer time (Manual)	
	Alarm Control		Reset	
	One Shot Capture		A still picture will be displayed on a newly opened window.	
	Audio		Mic (Line) Input: ON / OFF Volume adjustment: Low / Middle / High, Audio Output: ON / OFF Volume adjustment: Low / Middle / High	
	SD Memory Data Download		Still or motion images recorded in the SDHC/SD memory card can be downloaded.	
	GUI/Setup Menu Language		English, French, Italian,Spanish, German, Russian,Chinese, Japanese	
	System Log		Up to 100 (Internal). Up to 4,000 (SDHC/SD memory when therecording format is set to JPEG.) error logs	
	Supported OS *1 *2		Microsoft® Windows® 7 Professional 64 bit/32 bit, Microsoft® Windows Vista® Business SP1 32 bit, Microsoft® Windows® XP Professional SP3	
	Supported Browser		Windows® Internet Explorer® 8.0 32 bit (Microsoft® Windows® 7 Professional 64 bit/32 bit), Windows® Internet Explorer® 7.0 (Microsoft® Windows Vista® Business SP1 32 bit), Microsoft® Internet Explorer® 6.0 SP3 (Microsoft® Windows® XP Professional SP3)	
Network	Network IF		10Base-T / 100Base-TX, RJ-45 connector	
	Image Resolution *4	Aspect ratio: [4 : 3]	H.264: 1,280 × 960 / VGA (640 × 480) / QVGA (320 × 240), up to 30 fps MPEG-4: VGA (640 × 480) / QVGA (320 × 240), up to 30 fps JPEG (M-JPEG): 1,280 × 960 / VGA (640 × 480) / QVGA (320 × 240), up to 30 fps	
		Aspect ratio: [16 : 9] *3	H.264: 1,280 × 720 / 640 × 360 / 320 × 180, up to 30 fps JPEG (M-JPEG): 1,280 × 720 / 640 × 360 / 320 × 180, up to 30 fps	
	H.264/MPEG-4 *5 *6	Transmission Mode	Constant bitrate / Framerate priority / Best effort	
		Frame Rate	1 / 3 / 5 / 7.5 / 10 / 12 / 15 / 20 / 30 fps	
		Bit Rate/Client	64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 / 4,096 / 8,192* kbps * H.264 mode only	
		Image Quality	LOW / NORMAL / FINE	
		Refresh Interval	0.2 s ~ 5 s	
		Transmission Type	UNICAST / MULTICAST	
	JPEG	Image Quality	10 steps	
		Refresh Interval	0.1 fps ~ 30 fps	
		Transmission Type	PULL / PUSH	
	Audio Compression		G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps	
	Audio Mode		OFF / Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex)	
	Authentication for Audio		Level 1 only / Level 2 higher / All users	
	Total Bit Rate		64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 2,048 / 4,096 / 8,192 kbps / Unlimited	
	Supported Protocol		IPv6: TCP/IP, UDP/IP, HTTP, HTTPS, RTP, FTP, SMTP, DNS, NTP,SNMP, DHCPv6, MLD, ICMP, ARP IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP,SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP	
	FTP Client		Alarm image transmission, FTP periodic transmission (When the FTP transmission is failed, backup on an optional SDHC/SD memory card is available.)	
	No. of Simultaneous Users		Up to 14 users (Depends on network conditions)	
	SDHC/SD Memory Card (Option)		H.264 recording: Manual REC / Alarm REC (Pre/Post) / Schedule REC JPEG recording: Manual REC / Alarm REC (Post) / Backup upon network failure Compatible SD (SDHC) card: Panasonic 256 MB, 512MB, 1 GB, 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB* model * SDHC card	
	Face Detection		ON / OFF (with XML notification)	
	Cellular Phone Compatibility		JPEG image, AUX control (by access level)	
	Mobile Terminal Compatibility *7		iPad, iPhone, iPod touch (iOS 4.2.1 or later) Android™ mobile terminals	
Alarm	Alarm Source		1 terminal input, VMD, Command alarm	
	Alarm Actions		SDHC/SD memory recording, E-mail notification, Alarm terminal output, Indication on browser, FTP image transfer, Panasonic protocol output	
	Alarm Log		With SDHC/SD memory card: 5,000 logs, without SDHC/SD memory card: 1,000 logs	
	Schedule		Alarm / VMD / Access permission / H.264 recording/ Forcible black & white mode(WV-SW316L)	
Input/ Output	Monitor Output (for adjustment)		VBS: 1.0 V [p-p]/75 Ω, NTSC composite, RCA Jack	VBS: 1.0 V [p-p]/75 Ω,PAL composite, RCA Jack
	Microphone/Line Input		MIC IN and Line IN are selectable. ø3.5 mm stereo mini jack (monaural input) (Applicable microphone: Plug-in power type) Supply voltage: 2.5 V ±0.5 V Input impedance: approx. 2 kΩ	
	Audio Output		ø3.5 mm stereo mini jack (monaural output) Line level	
	External I/O Terminals		ALARM IN, DAY/NIGHT IN, ALARM OUT, AUX OUT	
General	Safety/EMC Standard		UL (UL60950-1), FCC (Part15 ClassA), C-UL (CAN/CSA C22.2 No.60950-1), DOC (ICES003 ClassA)	CE (EN55022 ClassB, EN55024)

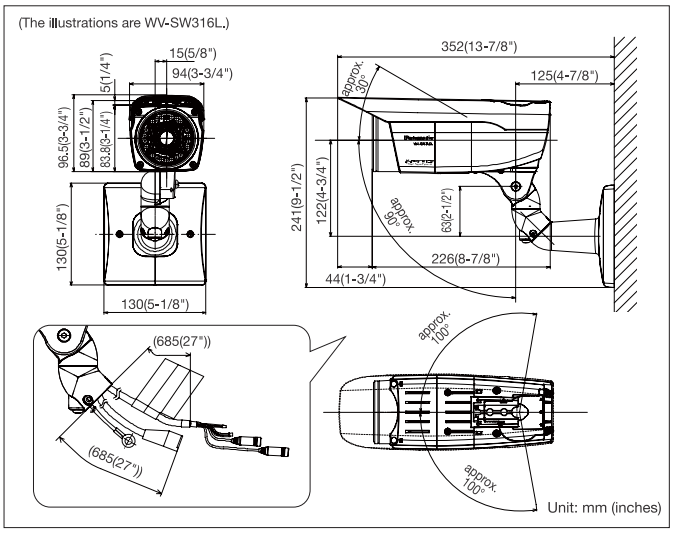
TV System		NTSC	PAL
General	Power Source and Power Consumption	12 V DC: 850 mA * FOR UL LISTED MODEL(S), ONLY CONNECT 12 V DC CLASS 2 POWER SUPPLY. PoE (IEEE 802.3af compliant) 48 V: 200 mA (Class 0 device)	
	Ambient Operating Temperature	–40 °C ~ +50 °C (–40 °F to 122 °F)	
	Ambient Operating Humidity	90 % or less (without condensation)	
	Water and Dust Resistance	IP66, IEC60529 measuring standard compatible	
	Dimensions	94 mm (W) × 89 mm (H) × 226 mm (L) (3-7/10" (W) × 3-1/2" (H) × 8-7/8" (L))	
	Mass (approx.)	1.4 kg (3.09 lbs.)	
	Finish	Main body: Aluminum die cast/resin, metallic silver coating Front cover section clear part: Polycarbonate resin	

*1 For further information about PC system requirements and precautions for when using Microsoft Windows 7, Microsoft Windows Vista, or Windows Internet Explorer, click "Manual"-"Open" from the supplied CD-ROM and refer to "Notes on Windows / Internet Explorer versions".
For information on the camera models of the supported operating systems, refer to our website (http://panasonic.net/pss/security/support/index.html).
*2 When using IPv6 for communication, use Microsoft Windows 7 or Microsoft Windows Vista.
*3 MPEG-4 is not supported. *4 [4 : 3] and [16 : 9] are alternative.
*5 H.264 and MPEG-4 are alternative. *6 Transmission for 2 streams can be individually set in the same compression method.
*7 For further information about compatible devices, refer to our website (http://panasonic.net/pss/security/support/info.html).

Part Names and Functions



Appearance



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Important
– Safety Precaution: carefully read the operating instructions and installation manual before using this product.
– Panasonic can not be responsible for network performance and/or other manufacturer products that reside on the network.

• Masses and dimensions are approximate.
• Specifications are subject to change without notice.
• These products may be subject to export control regulations.

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